

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figs. 11-13. These sheets, which include Figs. 11-13, replaces the original sheets including Figs. 11-13. Figs. 11-13 have been labeled “prior art” as requested by the Examiner.

Attachment: 3 Replacement Sheets

REMARKS

This is in response to the Office Action dated April 19, 2005. New claim 29 has been added. Thus, claims 1-29 are pending.

Figs. 11-13 have been labeled "prior art" as requested by the Examiner.

Applicant notes with appreciation the Examiner's allowance of claims 15, 16, 19, 20, 23, 24, 27 and 28, and the indication that claims 3, 4, 7, 8, 11, 12, 21, 22, 25 and 26 contain allowable subject matter. In this respect, allowable claims 3 and 21 have been rewritten in independent form. Thus, claims 3, 7, 11, 15, 16, 19, 20, 21, 23, 24,, 25, 27 and 28 are now in condition for allowance given the Examiner's indication of allowable subject matter.

Claim 1 stands rejected under Section 102(b) as being allegedly anticipated by Gnadinger. This Section 102(b) rejection is respectfully traversed for at least the following reasons.

Claim 1 as amended requires that "said first through electrode and said second through electrode have mutually differing cross-sectional areas in a common horizontal plane transverse to a through-hole direction." For example, different through electrodes (e.g., 8a and 8c) in Figs. 1-2 of the instant application have different cross sectional areas in a common horizontal plane transverse to the through-hole direction. By adopting a through electrode of larger cross-sectional area in a common horizontal plane for an electrode that is to pass a greater amount of current, for example and without limitation, it is possible to reduce resistance of the through electrode thereby suppressing heat generation, signal delay, and/or the like. The cited art fails to disclose or suggest the above underlined feature of claim 1.

Gnadinger fails to disclose or suggest the aforesaid underlined features of amended claim 1. In particular, in Gnadinger, for a given chip having a plurality of the same conical shaped

through electrodes 20 defined therein, such chips would have the *same* cross-sectional area in a common plane if a plurality of such electrodes were provided in a chip – which is the opposite of what amended claim 1 requires. Thus, Gnadinger teaches directly away from the invention of claim 1.

Independent claims 13 and 14 define over Gnadinger in a similar manner. Thus, the Section 102(b) rejections of claims 13-14 should also be withdrawn.

Claim 1 also stands rejected under Section 103(a) as being allegedly unpatentable over Terui in view of Gnadinger. This Section 103(a) rejection is respectfully traversed for at least the following reasons. The Office Action's alleged modification to Terui based on Gnadinger is incorrect for at least the following reasons. Terui, in Fig. 5, requires that electrodes 181, 183, 285 and 287 be connected to electrodes 81-87 at a *peripheral* portion of substrate 10. Clearly, electrodes 181, 183, 285 and 287 of Terui are not through electrodes as required by claim 1. Given the connection to the *peripheral* portion of the substrate 10, there is no reason why anyone would ever modify Terui to make electrodes 181, 183, 285 and 287 through electrodes as called for in claim 1. There is simply no suggestion in the art for doing this. Instead, the art teaches away from such a modification because of the need to connect electrodes 181, 183, 285 and 287 to electrodes 81-87 at a *peripheral* portion of substrate 10. All Section 103(a) rejections based on this combination as flawed for at least this reason.

Claim 29 requires that that “first through electrode and said second through electrode have mutually differing resistances.” E.g., see the instant specification from the bottom of page 13 to the bottom of page 16. The cited art fails to disclose or suggest this underlined feature of claim 29.

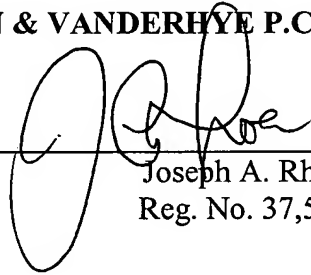
DOTTA et al
Appl. No. 10/670,244
July 13, 2005

It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

NIXON & VANDERHYTE P.C.

By: _____



Joseph A. Rhoa
Reg. No. 37,515

JAR:caj
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100